



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Don Van der Vaart  
Secretary

July 17, 2015

Mr. Tim Grant, P.G.  
Marshall Miller & Associates  
5900 Triangle Drive  
Raleigh, North Carolina 27617

Re: Request for Work Plan & Cost Proposal for Task Order **712DP-11& 712DP-12**  
Confirmation Groundwater Monitoring  
City of Lumberton LDFL  
Lumberton, Robeson County, NC  
ID# NONCD0000712

Dear Mr. Grant:

Submit a task work plan and cost estimate to perform remedial investigation-contaminant delineation phase activities at the above referenced site. Conduct these activities in accordance with your State Contract N11001S.

**Investigation Goals:** Sampling and analysis of surface water and potable water, conduct groundwater monitoring, and additional borings of the cover soil at the site.

**Scope of work for Task Order 712DP-11A:**

- Prepare a work plan in accordance with *MMA*'s approved standard operating procedures dated January 10, 2010, and include a schedule of daily activities.
- Submit an itemized cost estimate that identifies personnel and materials involved.
- Reference the most recent Guidelines for Addressing Pre-Regulatory Landfills and Dumps for details regarding procedures
- Ensure personnel in the field are qualified to identify contaminated material and landfill waste and comply with OSHA-required health and safety training.
- Before task activities begin, photograph areas or objects that may be disturbed. If needed, photograph affected areas and objects, restoration efforts, and noteworthy items encountered during task activities. Submit these photographs upon completion of the activities, and a review will determine if any need to be included in the report.
- Collect GPS coordinates along the waste disposal boundary. Report coordinates in decimal degrees to the seventh order using the North American Datum of 1983 (NAD83) format and latitude and longitude using WGS 84 format. These coordinates will be tabulated and included as an appendix. The tabulated coordinates for the landfill perimeter should start at the northernmost point of the perimeter and be listed in a clockwise progression around the perimeter.
- Include background (light grey) topographic contour lines on figures detailing the Site and Site vicinity.

- For any invasive activities, provide a plan to properly manage investigation derived waste (IDW). If sampling results indicate non-hazardous IDW, spread within the waste disposal area. If sampling results indicate hazardous IDW, analyze containerized waste as required by waste hauler and include details of sampling and disposal of drums in the proposal. Remove all drummed waste and associated fencing from site within 90 days after field activities are concluded.
- For any field work, minimize the clearing of vegetative material to enable access to proposed sampling points. Using hand tools for clearing is the preferred method, otherwise an explanation must be provided for use of heavy equipment.
- Submit samples to a North Carolina-certified laboratory and analyze for the following parameters by the most current U.S. EPA Contract Laboratory Program Target Compound List: volatile organic compounds by SW-846 method 8260, 1,4-dioxane by Method 8260SIM, semi-volatile organic compounds by SW-846 method 8270, 14 metals by SW-846 method 6020, mercury by method 7471, ammonia by SM 4500, and nitrate and sulfate by EPA Method 300. Please note that any alternate method should be the U.S. EPA Method having the lowest detection limit and that at least achieves the detections equivalent to the 15A NCAC 2L standards or where these are not available, then federal maximum contaminant limits (MCLs). Soil analysis methods must meet the IHSB Preliminary Soil Remediation Goals Table. Initial samples also need 10 Tentatively Identified Compounds (TICs).
- Note: once all contaminants are determined, laboratory analysis may be reduced to those positively identified contaminants.

#### **Subtask Order 712DP-11B: Sampling and Analysis of Potable Well Water and Surface Water**

- a). Collect samples for analysis from potable wells (see **Appendix 1**)
  - i. WS-1A: located at Jacob's, 2133 Odum Rd (PIN#: 937339323800) which was identified in the First Phase;
  - ii. WS-1: Oxendine's, 2411 Odum Rd, (PIN#: 937430586500);
  - iii. WS-5: Bruce's, 194 Old Sawmill Rd, (PIN#: 937349955200).
- b). Collect samples for analysis of surface water from the pond located at Bruce's, near 2186 Odum Rd (PIN#: 937359587700)
- c). Analyze VOCs, Semi-VOCs, metals (Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl and Zn), 1,4,-dioxane, NH<sub>3</sub>, NO<sub>4</sub>, and SO<sub>4</sub>.

#### **Subtask Order 712DP-11C: Permanent Groundwater Monitoring Wells:**

- a). Install six (6) groundwater monitoring wells (MW-1,2,3,5,6,9) at the selected locations as shown in **Appendix 2** (may use pre-packs if applicable) to collect groundwater samples. Install the wells to a depth that bisects the water table. Record the well development. After the groundwater in each well has stabilized (at least 24 hours after installation), collect depth-to-water measurements for each well within a 24 hour period.
- b). Please consider a truck mounted drill rig to minimize surface impacts.
- c). The locations of the wells should be in the approximate locations indicated in **Appendix 2**, however, within the property boundary.

**Subtask Order 712DP-11D: Soil Cover Investigation:**

- Advance 12 soil borings (SB-41~ SB-52) (see **Attachment 3**) to determine thickness and composition of the existing cover soils. Please note that the set of soil borings anticipated in this Task Order 712DP-11 are aimed to fill-in the soil-cover information gaps among all the previous investigations, such as the various boring logs from Task Orders 712DP-2, 712DP-4, 712DP-6, and 712DP-9.
- Advance borings in an approximately 200-foot grid. Install the borings to a depth of 3 feet or waste if encountered first.
- Where cover is greater than or equal to 6 inches, collect a sample at 6 inches below ground surface (bgs). Where cover is greater than or equal to 2 feet, collect one sample at 6 inches and one sample at 18 inches bgs.
- Provide a soil-cover thickness contour map of this site by the assembly of all available soil cover information of this and previous investigations.

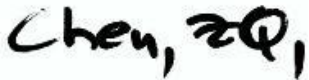
**Task Order 712DP-12:**

Assemble a report under ask Order. Name the report: “*Remedial Investigation: Re-sampling and Analysis of Surfacewater and Potable Water, Confirmation Groundwater Monitoring, and Additional Soil Cover Studies*” that provides the information in and results of the activities. Upon review and approval of the cost proposal, a task authorization to proceed will be issued. Please note that the report should contain the following items:

- a). A section concerning any variations from the work plan or your SOPs.
- b). Sample analytical results tables indicating BDL or ND for non-detects. Present results to match the lab report.

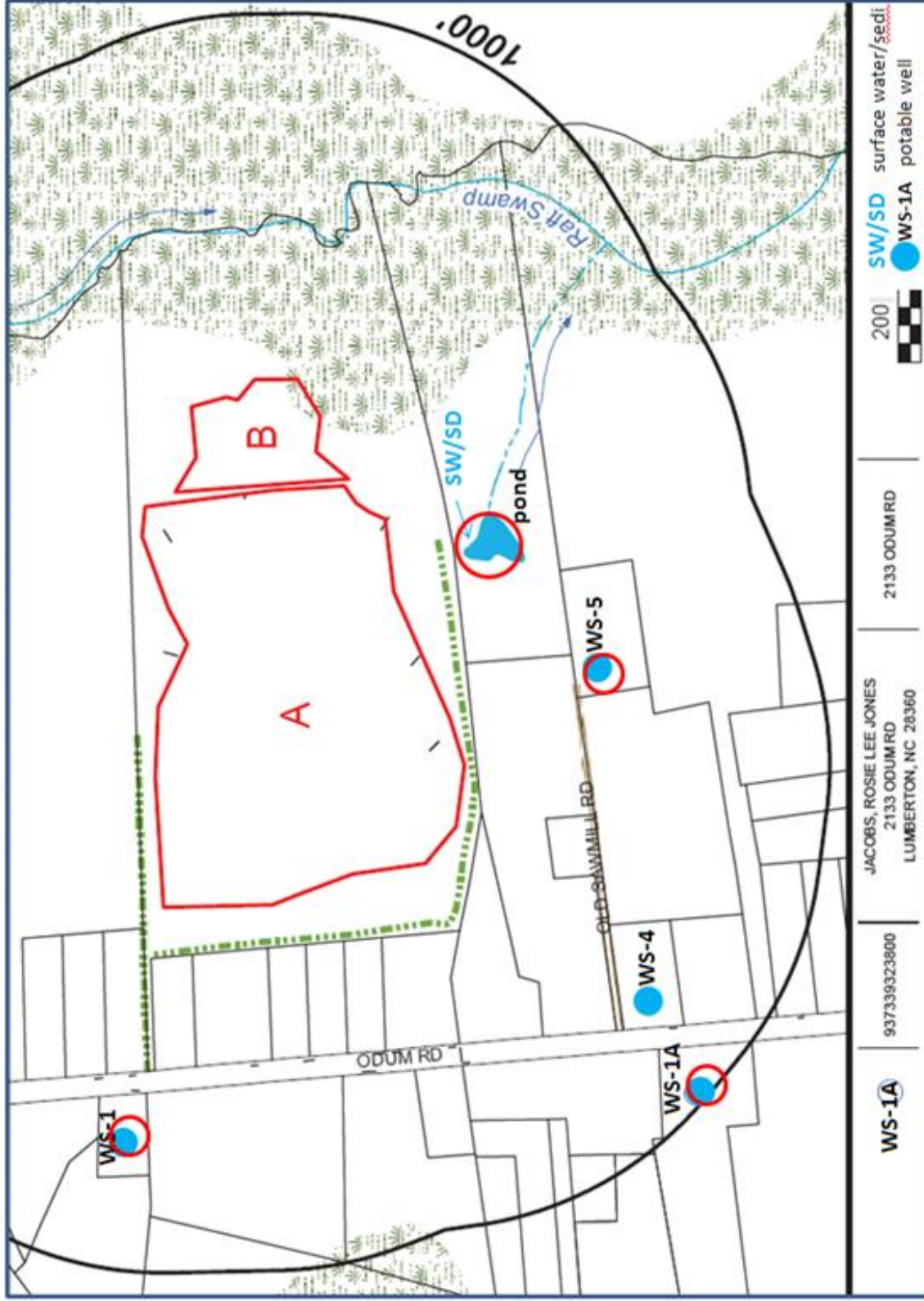
Provide the work plan and cost estimate in seven (7) days after receiving this request. A task authorization to begin work will be provided once my review is completed. Please call me at (919) 707-8347 with any questions regarding this request.

Sincerely,

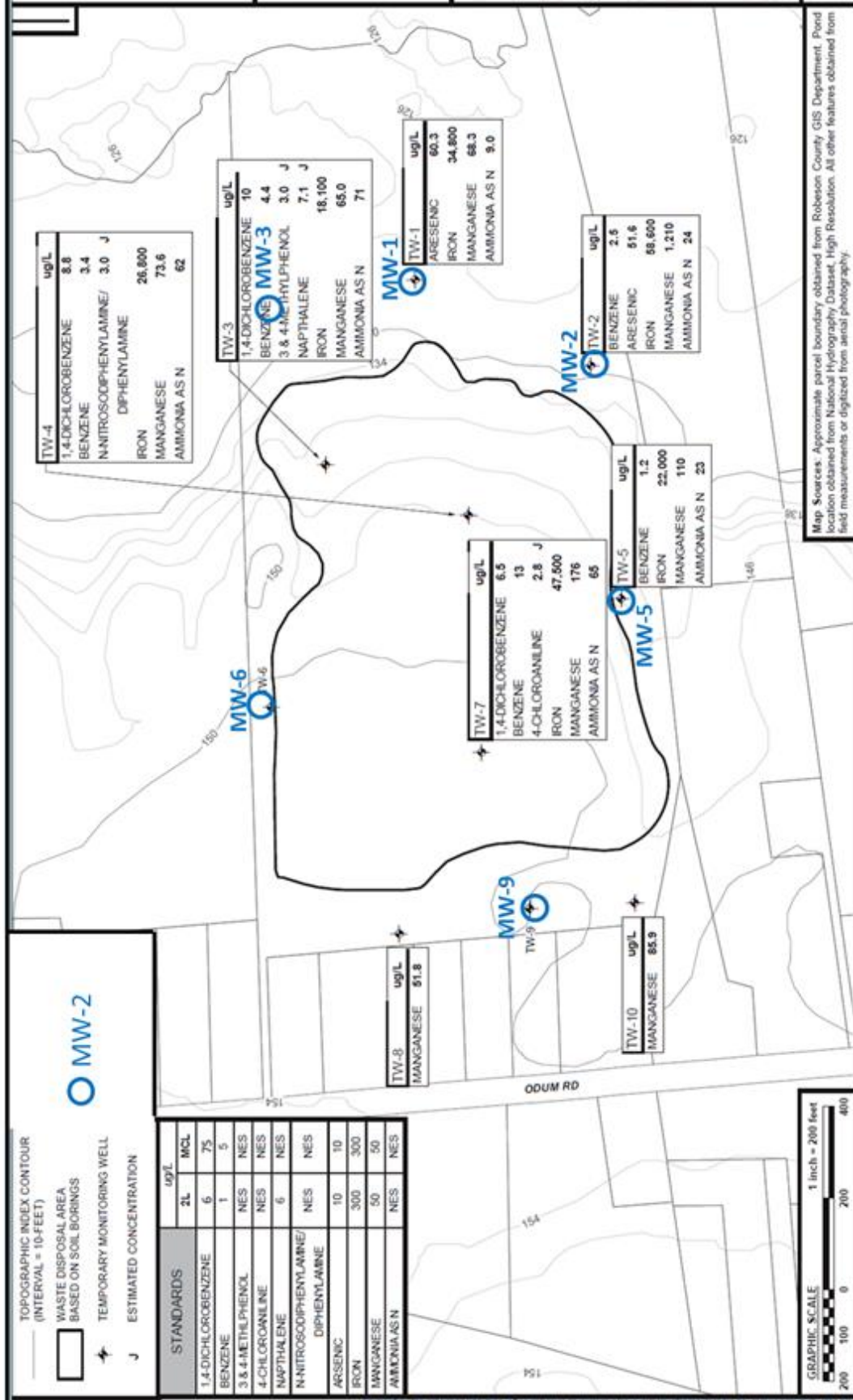
A handwritten signature in black ink that reads "Chen, ZQ,".

Ziqiang Chen, PhD, Environmental Engineer II  
Division of Waste Management, NCDENR

Appendix 1. Locations of Potable Well and Pond Water Samplings in the City of Lumberton LDFL

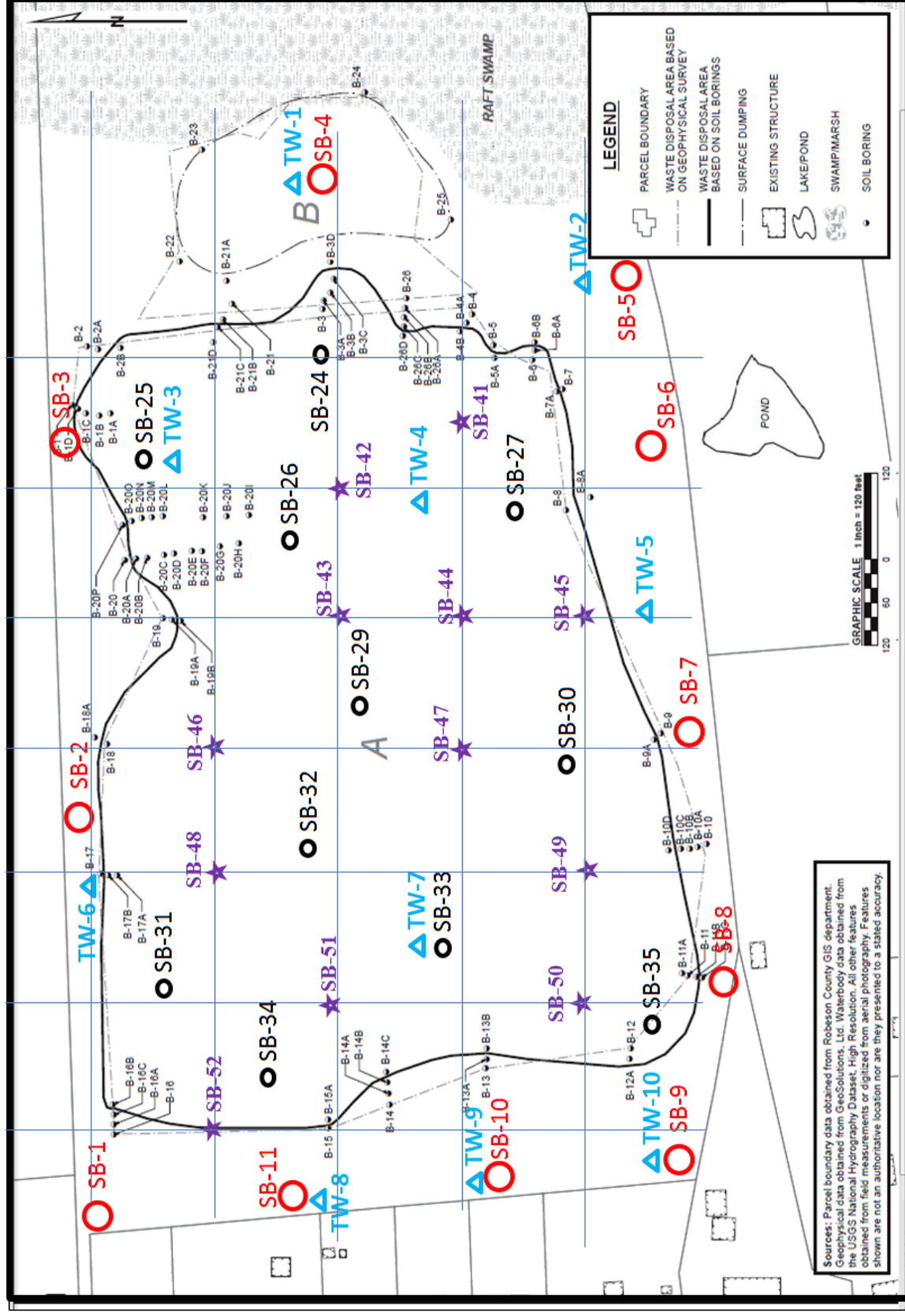


# Appendix 2 City of Lumberton 712DP-11 Confirmation Groundwater Sampling





### Attachment 3 Approximate Locations of Soil-Cover Borings in Task 712DP-11



- soil borings
- △ TW-1 temporary monitoring
- SB-1 in Task 712DP-4
- SB-31 in Task 712DP-9
- ★ SB-41 in this Task
- SB-50
- △ TW-2
- SB-51
- △ TW-3
- SB-52
- △ TW-4
- SB-53
- △ TW-5
- SB-54
- △ TW-6
- SB-55
- △ TW-7
- SB-56
- △ TW-8
- SB-57
- △ TW-9
- SB-58
- △ TW-10
- SB-59